

SEQUENCE LISTING

JC20 Rec'd PCT/PTO 08 JUL 2005

<110> BASF Aktiengesellschaft
 5 <120> A process for preparing ketocarotinoids by cultivation of genetically modified organisms
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 <170> PatentIn version 3.1

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55	att Ile	cag Gln	gca Ala	acg Thr	gtg Val 215	gtg Val	ctc Leu	gat Asp	gca Ala	act Thr 220	ggc Gly	ttc Phe	tct Ser	aga Arg	tct Ser 225	ctt Leu	789
60	gtt Val	cag Gln	tat Tyr	gat Asp 230	aag Lys	cct Pro	tat Tyr	aac Asn	ccc Pro 235	ggg Gly	tat Tyr	caa Gln	gtt Val	gct Ala 240	tat Tyr	ggc Gly	837
65	att Ile	ttg Leu	gct Ala 245	gaa Glu	gtg Val	gaa Glu	gag Glu	cac His 250	ccc Pro	ttt Phe	gat Asp	gta Val	aac Asn 255	aag Lys	atg Met	gtt Val	885
70	ttc Phe	atg Met 260	gat Asp	tgg Trp	cga Arg	gat Asp	tct Ser 265	cat His	ttg Leu	aag Lys	aac Asn	aat Asn 270	act Thr	gat Asp	ctc Leu	aag Lys	933
75	gag Glu 275	aga Arg	aat Asn	agt Ser	aga Arg	ata Ile 280	cca Pro	act Thr	ttt Phe	ctt Leu	tat Tyr 285	gca Ala	atg Met	cca Pro	ttt Phe	tca Ser 290	981
80	tcc Ser	aac Asn	agg Arg	ata Ile	ttt Phe 295	ctt Leu	gaa Glu	gaa Glu	aca Thr	tca Ser 300	ctc Leu	gta Val	gct Ala	cgt Arg	cct Pro 305	ggc Gly	1029

	ttg	cgt	ata	gat	gat	att	caa	gaa	cga	atg	gtg	gct	cgt	tta	aac	cat	1077
	Leu	Arg	Ile	Asp	Asp	Ile	Gln	Glu	Arg	Met	Val	Ala	Arg	Leu	Asn	His	
				310					315					320			
5	ttg	ggg	ata	aaa	gtg	aag	agc	att	gaa	gaa	gat	gaa	cat	tgt	cta	ata	1125
	Leu	Gly	Ile	Lys	Val	Lys	Ser	Ile	Glu	Glu	Asp	Glu	His	Cys	Leu	Ile	
			325					330					335				
10	cca	atg	ggg	ggg	cca	ctt	cca	gta	tta	cct	cag	aga	gtc	ggt	gga	atc	1173
	Pro	Met	Gly	Gly	Pro	Leu	Pro	Val	Leu	Pro	Gln	Arg	Val	Val	Gly	Ile	
			340				345					350					
15	ggg	ggg	aca	gct	ggc	atg	ggt	cat	cca	tcc	acc	ggg	tat	atg	gtg	gca	1221
	Gly	Gly	Thr	Ala	Gly	Met	Val	His	Pro	Ser	Thr	Gly	Tyr	Met	Val	Ala	
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	agg	aca	cta	gct	gcg	gct	cct	ggt	ggt	gcc	aat	gcc	ata	att	caa	tac	1269
	Arg	Thr	Leu	Ala	Ala	Ala	Pro	Val	Val	Ala	Asn	Ala	Ile	Ile	Gln	Tyr	
					375					380					385		
20	ctc	ggg	tct	gaa	aga	agt	cat	tcg	ggg	aat	gaa	tta	tcc	aca	gct	ggt	1317
	Leu	Gly	Ser	Glu	Arg	Ser	His	Ser	Gly	Asn	Glu	Leu	Ser	Thr	Ala	Val	
				390					395					400			
25	tgg	aaa	gat	ttg	tgg	cct	ata	gag	agg	aga	cgt	caa	aga	gag	ttc	ttc	1365
	Trp	Lys	Asp	Leu	Trp	Pro	Ile	Glu	Arg	Arg	Arg	Gln	Arg	Glu	Phe	Phe	
			405					410					415				
30	tgc	ttc	ggg	atg	gat	att	ctt	ctg	aag	ctt	gat	tta	cct	gct	aca	aga	1413
	Cys	Phe	Gly	Met	Asp	Ile	Leu	Leu	Lys	Leu	Asp	Leu	Pro	Ala	Thr	Arg	
			420				425					430					
35	agg	ttc	ttt	gat	gca	ttc	ttt	gac	tta	gaa	cct	cgt	tat	tgg	cat	ggc	1461
	Arg	Phe	Phe	Asp	Ala	Phe	Phe	Asp	Leu	Glu	Pro	Arg	Tyr	Trp	His	Gly	
	435					440					445					450	
	ttc	tta	tcg	tct	cga	ttg	ttt	cta	cct	gaa	ctc	ata	ggt	ttt	ggg	ctg	1509
	Phe	Leu	Ser	Ser	Arg	Leu	Phe	Leu	Pro	Glu	Leu	Ile	Val	Phe	Gly	Leu	
					455					460					465		
40	tct	cta	ttc	tct	cat	gct	tca	aat	act	tct	aga	ttt	gag	ata	atg	aca	1557
	Ser	Leu	Phe	Ser	His	Ala	Ser	Asn	Thr	Ser	Arg	Phe	Glu	Ile	Met	Thr	
				470					475					480			
45	aag	gga	act	ggt	cca	tta	gta	aat	atg	atc	aac	aat	ttg	tta	cag	gat	1605
	Lys	Gly	Thr	Val	Pro	Leu	Val	Asn	Met	Ile	Asn	Asn	Leu	Leu	Gln	Asp	
			485					490					495				
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	1				5					10					15		

5 His His Gly Phe Ala Val Lys Ala Ser Thr Phe Arg Ser Glu Lys His
 20 25 30
 His Asn Phe Gly Ser Arg Lys Phe Cys Glu Thr Leu Gly Arg Ser Val
 35 40 45
 10 Cys Val Lys Gly Ser Ser Ser Ala Leu Leu Glu Leu Val Pro Glu Thr
 50 55 60
 15 Lys Lys Glu Asn Leu Asp Phe Glu Leu Pro Met Tyr Asp Pro Ser Lys
 65 70 75 80
 20 Gly Val Val Val Asp Leu Ala Val Val Gly Gly Gly Pro Ala Gly Leu
 85 90 95
 25 Ala Val Ala Gln Gln Val Ser Glu Ala Gly Leu Ser Val Cys Ser Ile
 100 105 110
 Asp Pro Asn Pro Lys Leu Ile Trp Pro Asn Asn Tyr Gly Val Trp Val
 115 120 125
 30 Asp Glu Phe Glu Ala Met Asp Leu Leu Asp Cys Leu Asp Ala Thr Trp
 130 135 140
 35 Ser Gly Ala Ala Val Tyr Ile Asp Asp Asn Thr Ala Lys Asp Leu His
 145 150 155 160
 40 Arg Pro Tyr Gly Arg Val Asn Arg Lys Gln Leu Lys Ser Lys Met Met
 165 170 175
 45 Gln Lys Cys Ile Met Asn Gly Val Lys Phe His Gln Ala Lys Val Ile
 180 185 190
 Lys Val Ile His Glu Glu Ser Lys Ser Met Leu Ile Cys Asn Asp Gly
 195 200 205
 50 Ile Thr Ile Gln Ala Thr Val Val Leu Asp Ala Thr Gly Phe Ser Arg
 210 215 220
 55 Ser Leu Val Gln Tyr Asp Lys Pro Tyr Asn Pro Gly Tyr Gln Val Ala
 225 230 235 240
 60 Tyr Gly Ile Leu Ala Glu Val Glu Glu His Pro Phe Asp Val Asn Lys
 245 250 255
 65 Met Val Phe Met Asp Trp Arg Asp Ser His Leu Lys Asn Asn Thr Asp
 260 265 270
 Leu Lys Glu Arg Asn Ser Arg Ile Pro Thr Phe Leu Tyr Ala Met Pro

	275		280		285
5	Phe Ser Ser Asn Arg Ile Phe Leu Glu Glu Thr Ser Leu Val Ala Arg	290	295	300	
10	Pro Gly Leu Arg Ile Asp Asp Ile Gln Glu Arg Met Val Ala Arg Leu	305	310	315	320
15	Asn His Leu Gly Ile Lys Val Lys Ser Ile Glu Glu Asp Glu His Cys	325	330	335	
20	Leu Ile Pro Met Gly Gly Pro Leu Pro Val Leu Pro Gln Arg Val Val	340	345	350	
25	Gly Ile Gly Gly Thr Ala Gly Met Val His Pro Ser Thr Gly Tyr Met	355	360	365	
30	Val Ala Arg Thr Leu Ala Ala Ala Pro Val Val Ala Asn Ala Ile Ile	370	375	380	
35	Gln Tyr Leu Gly Ser Glu Arg Ser His Ser Gly Asn Glu Leu Ser Thr	385	390	395	400
40	Ala Val Trp Lys Asp Leu Trp Pro Ile Glu Arg Arg Arg Gln Arg Glu	405	410	415	
45	Phe Phe Cys Phe Gly Met Asp Ile Leu Leu Lys Leu Asp Leu Pro Ala	420	425	430	
50	Thr Arg Arg Phe Phe Asp Ala Phe Phe Asp Leu Glu Pro Arg Tyr Trp	435	440	445	
55	His Gly Phe Leu Ser Ser Arg Leu Phe Leu Pro Glu Leu Ile Val Phe	450	455	460	
60	Gly Leu Ser Leu Phe Ser His Ala Ser Asn Thr Ser Arg Phe Glu Ile	465	470	475	480
65	Met Thr Lys Gly Thr Val Pro Leu Val Asn Met Ile Asn Asn Leu Leu	485	490	495	
	Gln Asp Lys Glu	500			
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